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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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WOLF GREENFIELD & SACKS, P.C.
600 ATLANTIC AVENUE
BOSTON, MA 02210-2206

EXAMINER	
ARNOLD, ERNST V	
ART UNIT	PAPER NUMBER
1616	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/550,586	SATO ET AL.	
	Examiner	Art Unit	
	ERNST V. ARNOLD	1616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 April 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36* is/are pending in the application.

4a) Of the above claim(s) *15-36* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7 and 9-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim 8 has been cancelled. Claims 15-36 have been withdrawn. Claims 1-7 and 9-14 are under examination.

Withdrawn rejections:

Applicant's amendments and arguments filed 4/23/08 are acknowledged and have been fully considered. Any rejection and/or objection not specifically addressed below is herein withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-7 and 9-14 remain/are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanida et al. (US 6,214,378) in view of with respect to claims 9-11 Adesunloye et al. (US 5,874,106).

Applicant claims a medicinal oral preparation for colon delivery.

Determination of the scope and content of the prior art

(MPEP 2141.01)

Tanida et al. teach in the abstract (examiner added emphasis):

> This invention offers capsules for oral preparation which is useful for colon diseases such as colon cancer, ulcerative colitis, constipation and diarrhea and for systemic diseases such as osteoporosis and which does not undergo any change at all in stomach and in small intestine but firstly start to disintegrate upon arriving at large intestine and, at the same time, quickly release the drug therefrom wherein the capsule base therefor is hydroxypropylmethylcellulose (HPMC) or polyethyleneglycol-compounded HPMC, gelatin or agar and, on the surface of said capsule base in which powder or liquid containing a pharmacologically active substance is encapsulated, a double-coated structure comprising an inner layer consisting of a cationic copolymer and an outer layer consisting of anionic copolymer is formed.

Tanida et al. teach in claims 1-4, 7 and 8 (examiner added emphasis):

1. A capsule comprising a base layer consisting of hydroxypropylmethylcellulose, a mixture of polyethylene glycol with hydroxypropylmethylcellulose, gelatin or agar, the outside surface of said base layer being successively coated with an inner layer consisting of a cationic copolymer, and an outer layer consisting of an anionic copolymer.

2. The capsule according to claim 1, wherein the cationic copolymer is a copolymer of methyl methacrylate with butyl methacrylate and dimethylaminoethyl methacrylate or polyvinylacetal diethylaminoacetate.

3. The capsule according to claim 1, wherein the anionic copolymer is at least one selected from a group consisting of a copolymer of methacrylic acid with methyl methacrylate, hydroxypropylmethylcellulose phthalate, hydroxypropylmethylcellulose acetate succinate, carboxymethylethylcellulose and cellulose acetate phthalate.

4. The capsule according to any one of claims 1–3, wherein the cationic copolymer and the anionic copolymer is each in an amount of about 5 mg to about 200 mg.

7. A capsule preparation comprising the capsule according to any one of claims 1–3, and a pharmacologically active substance encapsulated in the capsule.

8. The capsule preparation according to claim 7, wherein the pharmacologically active substance is at least one selected from a group consisting of polypeptides, anti-inflammatory agents, anti-tumor agents, antibiotics, chemotherapeutic agents, remedies for ulcerative colitis, remedies for irritable colon syndrome, steroidal preparations, vitamins, drugs for constipation, anti-sense drugs and immunosuppressants.

It is the Examiner's position that, in the absence of evidence to the contrary, since the components taught in the art are the same as instantly claimed then it would have the same disintegration test time and swell and dissolve at the appropriate pH. The U.S. Patent Office is not equipped with analytical instruments to test prior art compositions for the infinite number of ways that a subsequent applicant may present previously unmeasured characteristics. When as here, the prior art appears to contain the exact same ingredients and applicant's own disclosure supports the suitability of the

prior art composition as the inventive composition component, the burden is properly shifted to applicant to show otherwise.

In column 9, lines 35-40, Tanida et al. teach a core comprising:

Prednisolone	10.0 parts by weight
Lactose	69.0 parts by weight
Crystalline cellulose	10.0 parts by weight
Polyvinylpyrrolide (PVP)	10.0 parts by weight
Magnesium stearate	1.0 parts by weight

Tanida et al. teach that basic amino acids can be in the core (collumn 2, lines 1-26 and claim 12).

Adesunloye et al. teach adding 1-5 wt % amino acids and 0.1 to 1 wt % carboxylic acids, such as citric acid, to capsule fill (Abstract; and claims 1-14).

Ascertainment of the difference between the prior art and the claims

(MPEP 2141.02)

1. The difference between the instant application and Tanida et al. is that Tanida et al. do not expressly teach adding 5-20 wt% amino acids and 0.1 to 3 wt% organic acids as pH adjusters. This deficiency in Tanida et al. is cured by the teachings of Adesunloye et al.

2. The difference between the instant application and Tanida et al. is that Tanida et al. do not expressly teach the core having a diameter of 5 to 8 mm and a thickness of 3 to 6 mm.

3. The difference between the instant application and Tanida et al. is that Tanida et al. do not expressly teach the weight of the inner layer relative to the core is 5 to 15 wt% and the weight of the outer layer relative to the core is 5 to 15 wt%.

Finding of prima facie obviousness

Rational and Motivation (MPEP 2142-2143)

1. It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to add amino acids and carboxylic acids, as suggested by Adesunloye, and produce the instant invention.

One of ordinary skill in the art would have been motivated to do this because Tanida et al. Suggest adding other components (column 3, lines 55-56) and suggest adjusting the pH (column 4, lines 10-13). Adesunloye et al. teach common ordinary amino acids and common ordinary carboxylic acids to add to capsule fill which would by their nature alter the pH.

2 and 3. It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to make the core having a diameter of 5 to 8 mm and a thickness of 3 to 6 mm and the weight of the inner layer relative to the core is 5 to 15

wt% and the weight of the outer layer relative to the core is 5 to 15 wt% and produce the instant invention.

One of ordinary skill in the art would have been motivated to do this because it is merely optimization of the components taught by Tanida et al. The U.S. Patent Office is not equipped with analytical instruments to test prior art compositions for the infinite number of ways that a subsequent applicant may present previously unmeasured characteristics. When as here, the prior art appears to contain the exact same ingredients and applicant's own disclosure supports the suitability of the prior art composition as the inventive composition component, the burden is properly shifted to applicant to show otherwise.

Summary: It appears that the instantly claimed medicinal preparation for colon delivery comprising cationic and anionic polymers is taught in the art. Addition of common ordinary amino acids and common ordinary carboxylic acids in capsule fill is also taught in the art.

In light of the forgoing discussion, the Examiner concludes that the subject matter defined by the instant claims would have been obvious within the meaning of 35 USC 103(a).

From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention. Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

Response to arguments:

Applicant asserts that :

> The combination of Tanida and Adesunloye, for example, fails explicitly to recognize that varying the specific *weight* ratios of individual the inner or outer layers with respect to the core (claims 5 and 6), varying the core *weight* percentage of a disintegrating agent (claim 1, previously claim 8), varying the core *weight* percentage of the amino and organic acids (claims 9-11), or varying the core *diameter* and *thickness* (claim 14) could result in a preparation, which "in a disintegration test comprising vertical movement for 2 hours in a first solution of pH 1.2, subsequent vertical movement for 2 hours in a second solution of pH 7.4, and final vertical movement in a third solution of pH 6.4, the average disintegration initiation time and the average disintegration completion time each fall within a period from 35 min to 130 min after starting the vertical movement in the third solution."

The Examiner cannot agree. The art teaches the components that are instantly claimed for use in the same purpose. Applicant has not shown any unexpected results. A colonic delivery system is the expected result. The Examiner pointed out that Tanida does provide a teaching of using 10% crystalline cellulose which is a starch and would render obvious instant claim 8 (see rejection above).

Applicant asserts that the Examiner has ignored the aforementioned limitations in the claims and:

> As such, none of the experimental procedures and technical complexities by which the presently claimed invention was produced fall within the skill of one having skill in the art. Thus,

The Examiner cannot agree. First of all, disintegration tests of colonic delivery capsules and observation of amounts of drug released is routine in the art of delayed release capsules. Simply read the disclosure of Tanida et al. and look at figures 1-8. For example, in the Abstract, reproduced below for Applicant's benefit, Tanida clearly teach

that the capsule does not undergo any change in the stomach and in the small intestine but starts to disintegrate in the large intestine. How could Tanida et al. have this knowledge without testing the capsules?

(57) **ABSTRACT**

This invention offers capsules for oral preparation which is useful for colon diseases such as colon cancer, ulcerative colitis, constipation and diarrhea and for systemic diseases such as osteoporosis and which does not undergo any change at all in stomach and in small intestine but firstly start to disintegrate upon arriving at large intestine and, at the same time, quickly release the drug therefrom wherein the capsule base therefor is hydroxypropylmethylcellulose (HPMC) or polyethyleneglycol-compounded HPMC, gelatin or agar and, on the surface of said capsule base in which powder or liquid containing a pharmacologically active substance is encapsulated, a double-coated structure comprising an inner layer consisting of a cationic copolymer and an outer layer consisting of anionic copolymer is formed.

Applicant has not defined the instant claims over the prior art and no unexpected results have been presented. Applicant's arguments are not persuasive and the rejection is maintained.

Conclusion

No claims are allowed.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ernst V. Arnold whose telephone number is 571-272-8509. The examiner can normally be reached on M-F (6:15 am-3:45 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/EA/
Ernst Arnold
Patent Examiner

Technology Center 1600
Art Unit 1616

/Johann R. Richter/

Supervisory Patent Examiner, Art Unit 1616